Environmental Monitoring

Pricelist

Environmental Monitoring Products

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Mint Bridge Road

Kendal

Cumbria

Tel: 01539 727878

Email:sales@environmonitoring.co.uk

www.environmonitoring.co.uk

Index

section

1. **Gas Sample Probes**
2. **M&C Gas sampling probes**
3. **Heated lines and temperature conrollers**
4. **Gas conditioner – Millennium, M&C**
5. **Isokinetic samplers & ovens BSEN 13284, ISO 9096**
6. **Low flow samplers**
7. **Sintered gas frits**
8. **M5 isokinetic sampler spares**
9. **Diluter Calibrator**
10. **Unheated gas pobes**
11. **Standard and s-type pitot tubes**
12. **Testo 350MXL combustion analyser**
13. **Thermofid Mcerts Fid**
14. **Mini RAE 3000 and Mini Rae lite**
15. **Photovac Microfid(total VOC is)**
16. **New Gastec fid & old Gastec and autofim fid**
17. **Photvac Voyager & Petro pro**
18. **Jerome H2S and New Jerome**
19. **NewTSI Q trak Indoor air quality-swappable probes**
20. **New TSI IAQ calc**
21. **New Tsi Dustrak Drx and Dustrak II real time dust monitor**
22. **Velocicalc – velocity meters**
23. **Thermo-FID – TOC analyser**
24. **CEL noise meters and dose meters**
25. **Environmental monitoring**

Gas Sample Probes

Heated Gas Sample Probes are designed for continuous use with extractive sampling systems even where the sample contains dust, aerosols, water vapour and high dew-point corrosive gases. The probe is available in several versions which may be custom configured to meet user's specific application. The unit incorporates non-corrosive heated and replaceable ceramic filter elements mounted in a heated stainless steel housing.Probe tubes allow for stack temperatures up to 1200°C and are available for high dust environments.

Heated Gas Sample Probes		
Model	**Description**	**Price**
Unheated Probe	JES-300W	**£984.00**
Heated Probe with controller and housing (180°C), 230V DN65	JES-300	**£1513.00**
Heated Probe with controller and housing (180°C), 115V DN65	JES-300	**£1513.00**
Length 500mm	ER-S05	**£174.00**
Length 1000mm	ER-S10	**£174.00**
Length 1500mm	ER-S15	**£226.00**
Length 2000mm	ER-S20	**£270.00**
Length 2500mm	ER-S25	**£316.00**
Length 3000mm	ER-S30	**£410.00**
Sampling Pipe made of Kanthal for Temperature up to 1200°C		**Price**
Length 1000mm	ER-K10	**£415.00**
Length 1500mm	ER-K15	**£624.00**
Length 2000mm	ER-K20	**£832.00**
In-Situ Pre filter, Pore size 3µ, Material SS 1.4404 for temperature up to 550°C		**Price**
with V- deflector length 300mm, diameter 50mm up to 10g/m3	HD-03V	**£738.00**
with V- deflector length 500mm, diameter 50mm up to 20g/m3	HD-05V	**£939.00**
with V- deflector length 1000mm, diameter 50mm over 15g/m3	HD-10V	**£1075.00**
Extension tube for Pre filter, Material: SS 316; length 1000mm	HD-ET10	**£302.00**
Extension tube for Pre filter, Material: SS 316; length 2000mm	HD-ET20	**£360.00**
Extension tube for Pre filter, Material: SS 316; length 2500mm	HD-ET25	**£397.00**
Gasket for Extension tube	HD-ETGK	**£11.00**
Spare parts for JES 300		**Price**
Spare parts kit, (Gasket, O-Ring and Filter element)		**£141.00**
Surface coated filter element 20/40x135		**£214.00**

M&C gas probes with integrated heated filter

	M&C probes with Integrated heated filter With heated probe option **Price £1999.00**

Sample probes with integrated heated filters are a combination of up to now two previously separate systems:The PSP 4000H
This latest design is small, lightweight and simple to use

Useable stack temp	- 600deg C
Temp range	- adjustable 100 to 180 deg
Filter type	-2 micron
Connections	-3/8 " inlet
	-1/8" outlet npt & 6mm tube connector
Weight	3Kg

Probe Attachments price £104.00
Environmental Monitoring supplies a range of M&C probe attachments .

These are available in differential materials and lengths such as Inconel .
A simple NPT thread couples the probe to the heated filters.

Fully Heated probe and filter price £call

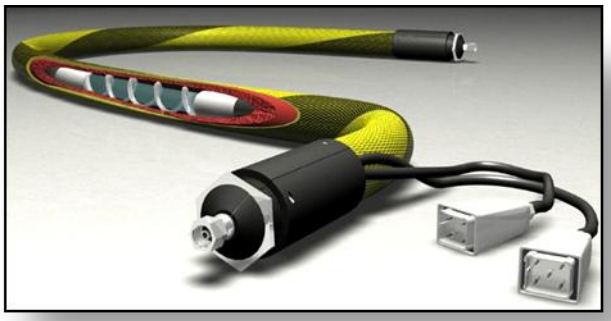
Completely heated probe and filter
Various option are available for this configuration

Heated Hoses/Sample lines

- High Quality heated sample hose
- Ideal for use with portable measuring instruments
- Replaceable sample tube option avialable
- Maximum temperature 200°C

Heated Hose	
Voltage - 115V/50Hz 0r 230w/50hz Power 90w/m	
Inner Core - 4mm x 6mm Fixed PTFE	
Jacket - Corrugated PA6 with closed cell silicone foam insulation	
Colour configuration black	
Minimum Bend Radius - 50mm	
Temperature Sensor - 1 off NiCr-Ni (Type K)	
End Configuration - Hard Cap	
End Configuration - One End Fixed RSL - V4A - 6mm	
End Configuration - One End Fixed Heated Filter (15mm x 30mm x 80mm - 5µm)	
Length	**Price**
5mtr Fixed Line - 115V. Total Price	**£544.79**
10mtr Filter Line - 115V. Total Price	**£985.75**
15mtr Filter Line - 115V. Total Price	**£1426.04**
20mtr Filter Line - 115V. Total Price	**£2,113.00**
Spare Fittings	**Price**
End Caps	
Stainless steel end tubes	

- Lengths from 0.5m to 100m
- 150mm bend radius
- Voltages: 115v, 230v or 415v
- 30 minute warm up time
- PTFE Core from 4mm to 12mm
- Optional PFA core



Heated Hoses	
Replaceable Core Heated Hose – 4mm x 6mm PTFE Core	
Voltage - 115V or 230V. 50Hz. 90W/mtr	
Jacket - 45mm OD. (Braided PA6 with Silicone Foam Insulation)	
Temperature Sensor - 1 off NiCr-Ni (Type K)	
End Configuration - Hard Caps both Sides. 6mm S/S Tube	
Length - Std Replacaeble Core Line	**Price**
5mtr Standard Heated Line, replaceable core	**£750.00**
10mtr Standard Heated Line, replaceable core	**£1,341.00**
15mtr Standard Heated Line, replaceable core	**£1,900.00**
20mtr Standard Heated Line, Fixed Core	**£2480.00**
25mtr Standard Heated Line, Fixed Core	**£2,340.37**
30mtr Standard Heated Line, Fixed Core	**£3,000.00**
Length - Std Replaceable Core Line & cal line	**Price**
5mtr Standard Heated Line, Replaceable Core&cal line	**£834.00**
10mtr Standard Heated Line, Replaceable Core& cal line	**£1390.00**
15mtr Standard Heated Line, Replaceable Core & cal line	**£1980.00**
20mtr Standard Heated Line, Replaceable Core & cal line	**£2775.00**
25mtr Standard Heated Line, Replaceable Core & cal line	**£3193.00**

Heated Line Temperature Controllers

Most electric heating must be temperature-controlled, therefore, we offer equipment with high control quality and quick start-up.

Temperature Controllers – 115v or 230v	**Price**
Portable Temperature Controller – 25amp Max	**£450**
Dual Temperature Controller – 25amp Max	**£750**

Sample Tube & Fittings

Tube

AGL are able to provide PTFE, PFA, PVDF and FEP tubing
PTFE Tubing is available in metric and imperial sizes

Standard coils lengths – 30/50/100mtr

Fittings

Suitable for use with almost all gases for laboratory testing and gas analysis where high purity over a wide temperature is essential.

With AGL series fittings the tube ID is pushed onto a sleeve within the fitting body. It is secured by a clamping ring which is forced against the tube when the nut is tightened. The clamping ring and nut prevent linear forces form pulling the tube out. This design suits most gas systems using flexible tubing e.g PTFE, Silicone

Tube and Fittings	
PTFE Tube - Std lgth 30/50/100mtr	**Price**
3mm OD x 1mm ID	**£1.74**
6mm OD x 4mm ID	**£2.58**
8mm OD x 6mm ID	**£3.62**
1/4" OD x 1mm Wall	**£3.32**
1/4" OD x 5/32" ID	**£4.06**
3/8" OD x 1/4" ID	**£6.68**
PVDF Fittings (Corrosive resistant)	**Price**
6mm PVDF Straight Compression Union (DN4/6 for 6mm x 4mm Tube)	**£7.30**
1/4" PVDF Straight Compression Union (D1/4 for 1/4" Tube)	**£7.30**
1/4" x 3/8" PVDF Reducing Straight Compression Union (D1/4 / 3/8 for 1/4" to 3/8" Tube)	**£15.18**
6mm (Tube) x 1/4" NPT (Male) PVDF Connector	**£6.88**

All other sizes and materials – price on application

<u>Millenium Compressor based Gas Coolers</u> £call

These coolers offers outstanding performance and reliability for extractive analytics with a very low dissolution rate to provide clean dry sample gases to extractive analysers.

Sample gas cleaning
Reliable filtration of particles down to 0.1 micron takes place in the Teflon-depth filter.

Moisture break-through monitoring
An externally installed moisture sensor controlled by an integrated electronic control monitors the function of the cooling system and the condensate pump. Analysers are protected from condensate breakthrough.

Measurement and adjustment of sample gas flow
With the flow meter and needle valve the sample gas flow can be adjusted and measured.

Pre-cooling of sample gas with inlet dew point > 65°C
The integrated air-cooled pre-cooler pre-separates condensate and solid particles.

Gas Conditioning Units **Price £2500.00**

Sample Gas Conditioners are an essential part of any extractive Gas Analyser System. The JCC Cooler is designed to deliver pre conditioned sample gases to moisture intolerant extractive gas analysis equipment. The unit houses all necessary components and is piped and wired ready for use.

M& C Gas Conditioners –model CSS-M portable peltier cooler		
Housing		
Weight		**11kg**
Dimensions		**177x220x300**
Max inlet temp		**80 deg c**
Dew point set temp		**4 deg C**
Gas path		
No of gas paths		**1**
Cooling time- approx		**10mins**
Gas Sample pump		
Flow Rate		**70 N L/H**
Cooling capacity		**40 Kj/hr**
Delivery time		**4 weeks**
Cost		**£2,500.00**

Consumables	
Filter element - one way (3pk)	**£133.00**
JF-1PTFE Filter element kit for fine dust filter JF-1 (3 pk)	**£239.00**
Replacement hose set for peristaltic drain pump (5 pk)	**£120.00**
Replacement Diaphragm set for pump	**£175.00**

Peltier Based Gas Coolers

Peltier Gas Coolers are of modular design and are an ideal solution for restricted working areas. The units are designed to separate water vapour from sample gas. The main use of this cooler is to guarantee suitable conditioned sample gas prior to analysis by moisture intolerant analysis equipment.

Gas Analysis Accessories

Environmental Monitoring offer a range of ancillary gas conditioning components.

Condensate Detectors – designed to detect condensate and liquid in sample conditioning systems. The unit consists of 3 main components, the sensor unit (electric conductivity), a manifold block (with DN4/6 gas connections) and an electronic circuit.

Filter – for the removal of dust and impurities from gas streams. The unit is manufactured from PVDF with FPM O ring seals thus allowing use on corrosive applications.

Pre-Condensate Separators – normally used in applications with high moisture contents for continuous use, the unit should be connected to a peristaltic drain pump.

Peristaltic Drain Pumps – consisting of a synchronous motor, gear unit and pump, the low speed of the 2 PVDF rollers guarantees long unit life.

Gas Analysis Accessories			
Part	**Model**	**Description**	**Price**
Condensate Detection			
17.04	KW-1	Condensate Sensor	**£160.00**
17.0402	KW-1A	PVDF Sensor Housing for KW-1	**£134.00**
17.04011	KW-1EB	Sensor control electronic module for wall mounting	**£334.00**
Micro Filter			
17.00001	JF-1	Filter housing (PVDF) for front panel mounting	**£186.00**
17.00002	JF-1GF2	Fibreglass filter element	**£136.00**
17.00003	JF-1TE2	PTFE filter element	**£271.00**
Pre Condensate & Pumps			
32.001		Pre condensate discharge unit	**£223.00**
32.0051	SR25	Condensate Pump without housing 115-230V 50/60Hz	**£329.00**
32.0053	SR25	Condensate Pump with housing 115-230V 50/60Hz	**£481.00**
12.9039	ESP	Replacement hose set for peristaltic pump (pk 5)	**£136.00**

Sample Pumps	**Price**
303.0 Vibrating Armature Pump 5.5 lpm - Viton Diaphragm. 230v or 115v with Case	**£603.00**
303.0 Vibrating Armature Pump - Replacement Viton Diaphragm	**£40.00**

Gas Analysis Accessories — Sintered Frits

Sintered Frits - *316 SS, 3/4" OD, 20 micron*

Part No	Type	Price
3208.250	6" Frit with 1/4" Cap-plug	£
3208.375	6" Frit with 3/8" Cap-plug	£
3208.375	6" Frit with 5/8" Cap-plug	£

Sintered Frits With Particulate Half Shield - *316 SS, 3/4" OD, 20 micron*

Part No	Type	Price
3220.250	6" Frit with 1/4" Cap-plug	£
3220.375	6" Frit with 3/8" Cap-plug	£
3220.625	6" Frit with 5/8" Cap-plug	£

Sintered Frits With Particulate Full Shield - *316 SS, 3/4" OD, 20 micron*

Part No	Type	Price
3222.250	6" Frit with 1/4" Cap-plug	£
3222.375	6" Frit with 3/8" Cap-plug	£
3222.625	6" Frit with 5/8" Cap-plug	£

- **In-Line Sintered Frits - Non Replaceable Element -** *316 SS, 5/8" OD, 20 Micron, 1" OD Tube*

Part No	Type	Price
3222.250	6" Frit with 1/4" Cap-plug	£
3222.375	6" Frit with 3/8" Cap-plug	£
3222.625	6" Frit with 5/8" Cap-plug	£

In-Line Sintered Frits - With Replaceable Element - *316 SS, 5/8" OD, 20 Micron, 1" OD Tube*

Part No	Type	Price
3232.250	6" Frit with 1/4" Cap-plug	£
3232.375	6" Frit with 3/8" Cap-plug	£
3232.625	6" Frit with 5/8" Cap-plug	£

Sintered Frit Accessories

Inline Frit Accessories	Type	Price
9185	Frit Tube Heater - Self Limiting	£
9186	Frit Tube Heater - Non Self Limiting	£
0370	Digital Temperature Controller	£

The Millennium Instruments Method 5 £9,200.00

Conforms with
BSEN 13284/6069/ISO 9096 BSEN 1948
Complete standard System Cost £9,000.00-
discounts are available for regular users

The standard Isokinetic Sampler
This robust unit has been the stalwart for isokinetic sampling around
The world for the last 15 years.
A new version is to be announced in 2010

Control Box components

- Dual column 8” incline manometer for measuring Delta P velocity (red column)and Delta H (yellow column) pressure drop across orifice.
- Coarse and fine flow adjustment valves.
- Integrated gas sample (IGS) bag flow meter and fitting.
- 0-30” vacuum gauge.
- 2 x 1/4" connections for Pitot lines.
- 1/2" connection for sample inlet
- 2 x 3/8” connections for pump vacuum/pressure lines.
- Circuit breaker controlled main power switch
- Rocker switches for pump on/off, valve null, and leak check.
- Solid state, programmable, temperature controllers for probe and filter oven.
- Solid-state temperature indicator with 6-position switch.
- 5 thermocouple inputs.
- Battery powered minute/second timer.
- AC connections for pump and auxiliary device.
- 4-pin amphenol electrical connections.

Pump Box components £600.00

- rotary vane vacuum pump
- Pressure/vacuum hoses for connection to meter
- 4” box fan

Oven Box £750.00

The Milloven – is the most reliable and simple oven box

Specification:

400w heater element

Iso 9096 Sampler

£5500.00

Complete system
Includes:
Set of 3 nozzles
1 x 47mm filter holder
1 x 6 segment probe
1 x short umbilical approx 4m
Internal pump
Internal drygas meter
Includes sample case
Canvas storage bag
Optional temperature control

Low flow samplers

£4500

The very latest in low flow systems

Compact ,small system

Tough plastic case with pop off cover

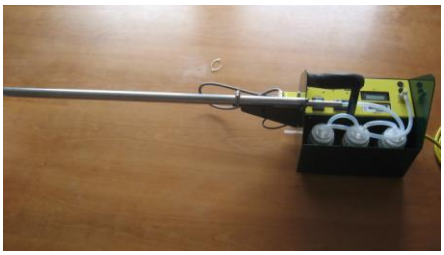
Digital dry gas meter

Flow range 1.0 to 8lpm

Temp control and indication

Mass Flow Sample system

£3,900



0-2 lpm, resolution to 0.1lpm
Temp and pressure corrected
Electronic pump control
Internal heater control
Probe supplied with internal “heated filter”
Capacity for 3-4 impingers
All self contained

M5 Components

Console

Pid controller
Price: £
Part number EM000200

Relay
Price£
Part numberEM000201

Thermocouple switch. Pre wired
Part numberEM000207
Cost £

Circuit Breakers
5 amp £
8 amp £
10 amp £
15 amp £

Amphenol
4 pin screw type

Female bulkhead	£	EM000212
Male bulkhead	£	EM000213
Male cable	£	EM000214
Female cable	£	EM000215

5 pin screw type

Female bulkhead	£	EM000267
Male bulkhead	£	EM000268
Male cable	£	EM000269
Female cable	£	EM000270

5 pin bayonet type

Female bulkhead	£	EM000271
Male bulkhead	£	EM000272
Male cable	£	EM000273
Female cable	£	EM000274

Heater Elements £
400w milloven
400w
Standard cateco element £

Switches
millenium
On/off
Price:£
Part number EM000218

On/off pump
Price:£
Part numberEM000218

Anderson
On/off toggles witches
16amp £ each
Part number EM000220

Timer
M5 standard timer
Pricev£
Part numberEM000221

Silicone Heatwraps

40” (101.6cm)
Price:£77.00
Part number:EM000222

72” (182.88cm)
Price: £
Part number: EM000223

80”(203cm)
price :£
Part no: EM000224

120”(304.8cm)
Price £
Part number :EM000225

140”(355cm)
£

110vProbePlug
Part number
Price £

M 5 fittings

Manometer
Price: £
Part number: EM000227

Manometer adjust knob
Price: £
Part number: EM000228

Manometer screw in insert
Price: £
Part number: EM000229

Manometer right angle insert
Price £
part number EM000230

Manometer level adjust
Price £
Part number EM000231

Manometer red oil
Price: £
Part number: EM000232-R
Manometer yellow oil
Price: £
Part number : EM000232-Y

Course on/off valve
Price: £

Part number: EM000233

Tubing

Thermocouple fittings
K-type
Bulkhead socket – Rectangle green
Price: £
Part number: EM000235

Bulkhead socket- Rectangle yellow
Price: £
Part number: EM000234

Pump M5 Isokinetic pump
New pump and case £

Pump only £
Case only £

Pump vanes (set of 4)
Part number EM000249
Price £

Pump power cable
Part number EM000xxx
Price £

Small oil jar only
Part no E M000242
Price £

Small oil jar head + jar
Part no EM000240
Price £

Large oil Jar £
Part no EM000241

Large oil jar & head
Part no EM000239
Price £

Foam filter
Small oj part EM000245 £
Large oj part EM000243 £

Pump fan
Part number EM000202
Price: £

Wick
Part number : EM000247
Price: £

Pump inlet and outlet hoses inc fittings
Part number: EM 000248
Price £

Quick connects- pump
Male
Part number EM000250
Price £
Female
Part number EM000251
Price £

Seal- manometer insert
Part number EM000252
Price £

Seal ptfe filter support
Part number EM000253
Price £

Port Seal
Part number EM000254
Price £

4”-2” Port Adapter
Part number EM000255
Price £

Screw Clamp
Part number EM000256
Price £

teflon filter support 3”
Part number EM000257
Price £

55mm Teflon filter holder
Part number EM000258
Price £

47mm stainless steel filter holder
Part number EM000259
Price £

25mm stainless steel filter holder
Part number EM000260
Price £

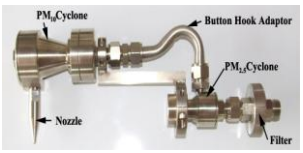
ss nozzles
part number EM000261
Price £

Titanium nozzles		Quartz Nozzles
Part number	EM000262	EM000263
Price	£	£

SS Union 5/8 inch		PTFE Union 5/8 inch
Part number	EM000264	EM000265
Price	£	£

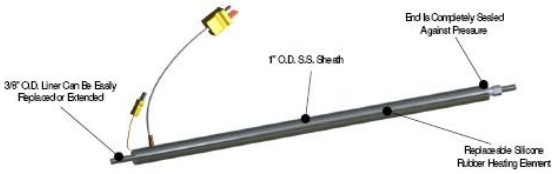
PTFE hose barb adapter
Part number EM000266
Price £

PM10 & PM2.5 kit
Part number EM000267
Price £



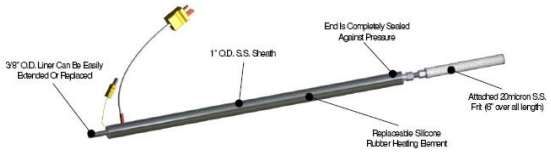
Diluter Calibrator
Part Number EM000268
Price £

Gas Analysis Accessories **CEMs Gas Sampling Probes**



Heated Gas Sample Probes - *316 SS, 115V Heating Element, 1" OD Sheath*

Part No	Type	Price
0490-4	4ft Heated Probe	**£291.11**
0490-6	6ft Heated Probe	**£311.11**
0490-8	8ft Heated Probe	**£346.67**
0490-10	10ft Heated Probe	**£417.78**



Heated Gas Sample Probes with Frit - *316 SS, 115V Element, 1" OD Sheath, 20 micron frit*

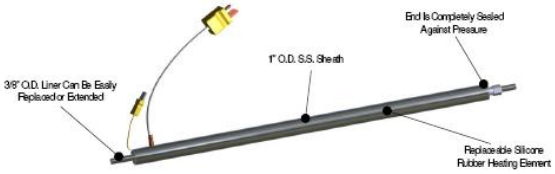
Part No	Type	Price
0490-4F	4ft Heated Probe with frit	**£450.00**
0490-6F	6ft Heated Probe with frit	**£468.89**
0490-8F	8ft Heated Probe with frit	**£503.33**
0490-10F	10ft Heated Probe with frit	**£571.11**

Unheated Gas Sample Probes - *316 SS, 115V Element, 3/8" OD Tube, 3/8" Tee*

Part No	Type	Price
8526P-4	4ft Unheated Probe	**£72.22**
8526P-6	6ft Unheated Probe	**£77.78**
8526P-8	8ft Unheated Probe	**£83.33**
8526P-10	10ft Unheated Probe	**£124.44**

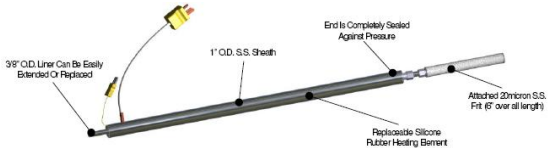
Unheated Gas Sample Probes with Frit - *316 SS, 115V Element, 3/8" OD Tube, 3/8" Tee, 20 micron frit*

Part No	Type	Price
8526PF-4	4ft Unheated Probe with frit	**£242.78**
8526PF-6	6ft Unheated Probe with frit	**£248.89**
8526PF-8	8ft Unheated Probe with frit	**£254.44**
8526PF-10	10ft Unheated Probe with frit	**£292.22**



Tubing - ss *probe inserts*

Part No	Type	Price
0490-4	0.5m liner	**£291.11**
0490-6	1.0m liner	**£311.11**
0490-8	1.5m liner	**£346.67**
0490-10	2.0m liner	**£417.78**



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Unheated Gas Sample Probes - *316 SS, 115V Element, 3/8" OD Tube, 3/8" Tee*

Part No	Type	Price
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8526P-8	8ft Unheated Probe	**£83.33**
8526P-10	10ft Unheated Probe	**£124.44**

Unheated Gas Sample Probes with Frit - *316 SS, 115V Element, 3/8" OD Tube, 3/8" Tee, 20 micron frit*

Part No	Type	Price
8526PF-4	4ft Unheated Probe with frit	**£242.78**
8526PF-6	6ft Unheated Probe with frit	**£248.89**
8526PF-8	8ft Unheated Probe with frit	**£254.44**
8526PF-10	10ft Unheated Probe with frit	**£292.22**

Standard Pitot

Length	Price
0.5m	£100
1.0m	£120

S-type assembly

0.5m	£00.00
1.0m	£00.00

<u>TESTO 350 Advanced Portable Emission Analyser</u> from £5,500

(see spec)Benefits

- Completely portable; system weighs less than 4kg
- Rapid set-up & easy to use
- Integrated gas sampling and conditioning system
- Integrated printer & on-board memory
- Temperature-controlled sensors for extended ambient operating conditions
- Pre-calibrated sensors may be swapped or field-upgraded in minutes
- Remote operation of up to 8 analyzers from 50m away
- Sensor over-range protection with automatic fresh air purge
- Long-term testing
- CO sample dilution system (up to 40:1)
- RS-232 port for connection to a PC

Technical Specifications:

Parameter	Measuring Range	Accuracy	Resolution
NO-low	0-300 ppm	< 2 ppm	0.1 ppm
NO	0-3,000 ppm	< 5 ppm	1 ppm
NO_2	0-500 ppm	< 5 ppm	0.1 ppm
SO_2	0-5,000 ppm	< 5 ppm	1 ppm
CO-low	0-500 ppm	< 2 ppm	0.1 ppm
CO	0-10,000 ppm	< 5 ppm	1 ppm
O_2	0-25 %	< 0.8 %	0.1 %
H_2S	0-300 ppm	< 2 ppm	0.1 ppm
C_XH_Y	0-4 %	< 0.04 %	0.01 %
CO_2	calculated from O_2		
Diff. Pressure 1	± 80" H_2O	< 1 % of MV	0.01" H_2O
Diff. Pressure 2	± 16" H_2O	< 1 % of MV	0.01" H_2O
Efficiency	0-100 %		0.1 %
Velocity	0-7,900 ft/min		10 ft/min
RPM	20-20,000 RPM		1 RPM
Temperature	-40 ... 2192°F		

Testo Options - Contact Environmental Monitoring for kit pricing.

Boiler Kit - Testo 350 M

This new configuration better satisfies basic combustion analysis and enables for easy upgrading only those sensors you want. It also provides an unprecedented value for upgrading for longer-term testing.

- (Max of 4 sensors) includes: O_2 and CO
- Control Unit with back-lit display and integrated printer
- Peltier gas chiller and water removal system
- 6- foot remote control cable
- 7- foot hose and 12" probe
- spare parts & carry case & calibration certificate

Kit 2 - Standard Kit testo 350 XL

Our best selling standard NOx kit. Ideal for upgrading

- (Max of 6 sensors) includes: O_2, CO, NO, NO_2 (NOx) and purge valve
- Control Unit with back-lit display and integrated printer
- Peltier gas chiller and water removal system
- 6- foot remote control cable
- 7- foot hose with special patented Teflon-lined hose and 12" probe
- Software
- spare parts & carry case & calibration certificate

Kit 3 - Engine Kit testo 350 XL

- (Max of 6 sensors) includes: O_2, CO, NO, NO_2 (NOx), purge valve, and CO Dilution system (extends the CO range to well over 100,000 ppm)
- Control Unit with back-lit display and integrated printer
- Peltier gas chiller and water removal system
- 16- foot remote control cable
- No probe, instead a 13" hose and 1/4" tube fitting. This configuration provides an excellent means to connect to: customer Teflon lines and sample probes; flow meter and shutoff valves to control high pressure; heated sample lines.
- Software
- Spare parts & transport case with sliding drawer & calibration certificate

Kit 4 - Turbine Kit testo 350 XL (low NOx and low CO Kit)

- (Max of 6 sensors) includes: O_2, CO low, NO low, NO_2 (low NOx), purge valve, and CO Dilution system (extends the CO range to 20,000 ppm)
- Control Unit with back-lit display and integrated printer and touch screen
- Peltier gas chiller and water removal system
- 16- foot remote control cable
- 16- foot hose with special patented Teflon-lined hose and 12" probe
- Software
- spare parts & carry case & calibration certificate

Thermo-FID – Flame Ionisation VOC / TOC Analyser

The M&A Thermo-FID is a common description for a wide range of TOC analysers which function according to the FID measuring principle. The product programme of TOC analysers consists of several models i.e. models for installation into 19" racks, models for installation directly on the flue gas channel, a portable version with a data logger as well as TOC systems with diluting functions and/or multiplex between several measuring points.

The FID-measuring principle is a destructive measurement, and the gas to be analysed is burned in a hydrogen-flame. In this way, the hydrocarbon molecules are decomposed, and the concentration of C-atoms is analysed by the detector. The Multi-FID cannot be connected to other analysers but must be installed parallel to other analysis instruments.

The Thermo-FID is designed for integration into an extractive gas analysis system or for use as a "stand-alone" instrument either for stationary functions or for mobile use with a built in data logger function.

The Thermo-FID is a heated gas analyser which is able to analyse on warm and wet flue gas. It has a built-in injector pump which requires continuous supply of instrument air. The portable version is delivered with a built-in heated pump as standard equipment. The heated pump can also be delivered as an option to the other types of FID analysers. Besides the Thermo-FID has an integrated temperature regulator for the heated hose.

Standard M&A Price List 2008	
Description	**Price**
Thermo-FID 19“ Rack Mount version, ‘ES’	**£17652.00**
Thermo-FID Portable ‘PT/LT’ without gas cylinder holder	**£18983.00**
Thermo-FID Close Coupled Probe, ‘MK’	**£24417.00**
Thermo-FID Portable ‘PT’ incl. gas cylinder holder	**£20982.00**
Options	
Status Alarm PCB 4 x 0/4-20mA isolated (600 Ohm) inc. 4 Alarm Contacts	**£1496.00**
Options ‘ES’; ‘TG’	
Set membrane pump internal Sample Gas Pump for ES and TG	**£1046.00**
Datalogger PCB, capacity about.250 DIN 4 pages	**£997.00**

Other options available – please request full price-list

<u>Mini Rae PID's VOC Detection instruments</u> From £2,840.00

Mini Rae 3000, Mini Rae 2000 and minirae lite

Superior VOC Detection with optional Benzene Capability

The Mini Rae3000 represents the newest advancement in volatile organic compound (VOC) detection coupled with operational simplicity. It is designed to respond quickly in emergency response situations while providing plenty of brainpower when you need it for comprehensive data analysis. With its proven photoionization (PID) technology and extended range of 0.1 to 15,000ppm, Mini Rae 3000 measures a wide variety of chemicals for environmental, industrial hygiene, and emergency response applications. Plus…with the quick-connect pre-filter tube assembly, it can measure benzene…a critical compound to identify in many environmental and industrial hygiene monitoring activities.

Easy operation

Designed with the field professional in mind, the mini rae 3000 features a large graphic display that is easy to read, even with a full face respirator, and the large keypad buttons are easy to access even with heavy hazmat gloves. Simultaneous real-time measurements and maximum hold readings provide all the important information you need without switching modes. The mini RAE 3000 **provides unsurpassed operational simplicity, and calibration is quick and easy. And, the ease of use doesn't stop there. Rae software lets you download lots of data with the push of a button, offering datalogging and documentation capability.**

Intrinsically Safe to North American and ATEX standards for use in potentially explosive environments. Expanded internal data logging allows to record up to 200 hours of 1 minute interval sampling points. Zero calibration through the use of an activated charcoal pre-filter tube developed by Dräger Safety AG.

Mini RAE Applications

- Fenceline and perimeter monitoring
- Confined space pre-entry
- Solvent storage and piping
- Transportation vessels
- Storage tank maintenance
- Site characterization
- Ambient air monitoring
- Emergency response and HazMat
- Petroleum product(s) tank entry
- Soil headspace screening
- Health and safety monitoring
- Surveying for buried chemical waste
- Aircraft fuel tank entry

Mini RAE PID Detector Applications

Emergency Response and HazMAT

HazMat and Emergency Response teams require portable, reliable instruments to quickly characterize accidents, spills, and contaminated sites. Mini rae voc detector is ideal in these situations since it is lightweight and easy to use. The Mini Rae 3000 provides sample analysis in less than three seconds. Rapid results are vital to responder safety to determine the level of personal protective equipment (PPE) required and the appropriate clean-up actions. Fast evaluation of the contamination present is also crucial to determine the hazard to the surrounding community and establish a safety perimeter around the site.

Benzene Monitoring – Personal

A PID is the instrument of choice for personal safety monitoring because it responds best to the more toxic VOCs such as benzene. The unit is small and light weighs 0.8kg!

Health and Safety Monitoring

Benzene is a recognized carcinogen and atmospheric pollutant, and the mini 3000 can specifically measure for benzene through the quick-connect pre-filter tube assembly.

Health and Safety Monitoring – Site

The Mini RAE PId 3000 can be used for site monitoring to insure worker safety. In Interval Mode, the unit automatically calculates and records PEAK, STEL, and TWA at a user selected interval. With datalogging capability supporting up to 260,000 time stamped data pointswill handle short and long term monitoring requirements.

Site Characterization/ Contaminated Land

The mini rae 3000 and mini rae lite are ideal for site screening to determine the extent of contamination present by providing the concentration and defining the perimeter. The Mini RAE 3000 and Mini Rae lite can monitor a broad range of compounds with the 10.6 eV lamp and the optional 11.7 eV lamp. The Mini RAE 3000 can be used in field characterization and monitoring potentially hazardous conditions during remediation.

Soil/Water Jar Headspace Screening

The Mini RAE 3000 and Mini Rae lite pid's can detect a wide range of VOCs from 0.1 to 10,000ppm. Given its broad detection range and capabilities, the Mini RAE 3000 is an ideal screening tool for VOCs in soil or water static headspace.

Aircraft Wing Tank Entry

While jet fuels (e.g., JP-8, JP-4, JP-5) are typically a mixture of many complex hydrocarbons, aircraft maintenance workers need measurement of the total concentration of VOCs after draining and ventilating the fuel tank to determine if the environment is safe for entry. The Mini RAE 3000 allows workers to quickly determine if respiratory protection is required and to enter the wing tank sooner with confidence. The Mini RAE 3000 is ideal for this application given its ability to measure low ppm levels of VOCs in less than three seconds

Detectible Compounds

Aromatic	**Benzene**, Toluene, Naphthalene
Unsaturated Hydrocarbons	Acetylene, Ethylene, 1,3-Butadiene
Chlorinated Hydrocarbons	Vinyl chloride, Chloroform, Trichloroethylene, Methylene chloride
Ketones	Acetone, Methyl ethyl ketone, Methyl isobutyl ketone
Alcohols	Methanol, Ethanol, Isopropanol, n-Butanol
Organic Fuels	Gasoline and jet fuels, which are mixtures of hundreds of different compounds including aromatics, are well detected.

Please note: This list provides examples of the classes of compounds detectable by the 2020ComboPRO.

Specifications

Detector	Instant on photoionization detector with standard 10.6 eV lamp, and optional 11.7 eV lamp.
Size	9.25" (235 mm) long x 2.9 (73.66 mm) deep x 3.6" (91.44 mm)
Weight	(0.8 kg)
Keypad	1 opps key, 2 program keys , 1 flash light switch
Display	Dot Matrix with backlight
Datalogger Memory	260,000 data points
Output	Upload /download via usb on charge station
Alarm Output	95 dB on alarm and flashing leds
Inlet Connection	Flexible 5" tube
Operating Temperature Range	Operating temperature: 0°C to 50°C (32°F to 122°F) I/S Certified temperature: 0°C to 40°C (32°F to 104°F)
Operating Humidity Range	0 to 95% relative humidity (non-condensing)
Operating Humidity Range with Optional Humidity Pre-filter Tube	0 to 100% relative humidity (non-condensing)
Operating Concentration Range	**VOC Mode:** 0.1 ppm to 100 ppm (isobutylene equivalent), 100ppm to 15,000ppm (isobutylene equivalent) **Benzene Mode:** 10 ppb to 40 ppm (isobutylene equivalent)
Response Time	Less than 3 seconds, to 90%
Low Detection Limit	0.1ppm Isobutylene
Battery Capacity	8 hours
Intrinsic Safety	Class 1, Division 1, Groups A, B, C, & D ATEX II 2 G EEx ib IIC T4 (TA = 0°C to +40°C)
FCC	Class B digital device, pursuant to Subpart B Class B of Part 15 of the FCC rules
Languages	English (standard). One of the following can be added as an option: Spanish, German, French, or Italian

Mini RAE LiteEurope: Atex option available **£1500.00**

ATEX (II 1G EEx ia IIC T4) IECEx (Ex ia IIC T4)

A simple non –datalogging version of the Mini RAE 3000

The main components of the portable VOC monitoring instrument incl
interact with the instrument: 3 operation/programming keys for normal operation or programming

LCD display with back light for direct readout and calculated measurements
Built-in flashlight for illuminating testing points in dark environments
Buzzer and red LEDs for alarm signaling whenever exposures exceed preset limits
Charge contacts for plugging directly to its charging station
Gas entry and exit ports
USB communication port for PC interface

Monitor Specifications*

Size	10" L x 3.0" W x 2.5" H (25.5 x 7.6 x 6.4 cm)
Weight	26 oz (738 g)
Sensors	Photoionization sensor with standard 10.6eV lamp
Battery •	Alkaline battery adapter
	• External field-replaceable lithium-ion battery pack, if specified
Operating Hours	12 hours of operation on alkaline battery adapter
	(12 hours with lithium-ion battery pack)
Display Graphic	4 lines, 28 x 43 mm, with LED back light
Keypad	1 operation and 2 programming keys, 1 flashlight on/off
Direct Readout	Instantaneous reading of:
	• VOCs as ppm by volume
	• High and low values
	• Date and time
Alarms	95 dB buzzer (at 30 cm) and flashing red LED to indicate
	exceeded preset limits
	• High: 3 beeps and flashes per second
	• Low: 2 beeps and flashes per second
	Alarm latching with manual override or automatic reset
	• Additional diagnostic alarm and display message for low
	battery and pump stall
EMI/RFI	Highly resistant to EMI/RFI. Compliant with EMC directive
	89/336/EEC
IP Rating	IP-65
Calibration	Two-point calibration for zero and span
Sampling Pump •	Internal, integrated flow rate at 400 cc/min
	• Sample from 100' (30m) horizontally and vertically
Low Flow Alarm	Auto shut-off pump at low-flow condition
Hazard Area Approval	None
Operating Temperature	-4° to 113° F (-20° to 50° C)
Humidity	0 to 95% relative humidity (non-condensing)
Attachments	Durable green rubber boot
Warranty	3 years for 10.6 eV lamp, 1 year for pump, battery and instrument

MicroFID **£7,500.00**

Superior VOC Detection by Flame Ionization

Detects up to 50,000 PPM VOCs, including methane, in fugitiv applications. One tutor key prompts you through basic operations. Critical data is displayed and logged in less than 3 sec within the concentration range of 0.1-50,000 PPM. A simple two-step calibration holds for a full workday. Replaceable and rechargeable battery packs operate for as long as 15 hours. The MicroFID is classified as Intrinsically Safe for both North America and Europe .

MicroFID Industries & Applications

Fugitive Emissions/EPA Method 21	Landfill Monitoring
Emergency Response – HAZMAT	Natural Gas Pipeline Leak Detection
Arson Investigations (Accelerants)	Tank Entry Petroleum Products

MicroFID Detectible Compounds

- Saturated Hydrocarbons — Methane, Ethane, Propane, n-Hexane
- Aromatics — Benzene, Toluene, Naphthalene
- Unsaturated Hydrocarbons — Acetylene, Ethylene, 1,3-Butadiene
- Chlorinated Hdrocarbons — Chloroform, Trichloroethylene, Methylene Chlor
- Ketones — Acetone, Methyl Ethyl Ketone, Methyl Isobutyl Ketone
- Alcohols — Methanol, Ethanol, Isopropanol, n-Butanol

Detector	Flame ionization detector with quick-change electrodeless discharge UV lamp, 10.6 eV (standard); Electron Capture Detector (optional)
Size	43.4 cm (17.1“) long, 9.8 cm (3.85“) wide, 18.8 cm (7.4“) high
Weight	8.1 lb (3.7 kg)
Keypad	16-key, fixed function
Display	2-line, 16-character LCD with alphanumeric readout
Datalogger Memory	200 hours at 1 minute interval sampling
Serial Output	RS – 232, 1200-19200 baud with no parity, for tabular and graphic printouts and connection to a Windows® compatible computer.
Alarm Output	On Alarm, LoBatt and NoFlm
Response Time	Less than 3 seconds
Operating Temperature Range	41°F to 105°F (5°C to 45°C)
Operating Humidity Range	0-100% Relative Humidity (non-condensing)
Hydrogen Cylinder Discharge	Greater than 12 hours
Operating Concentration Range	0.5 PPM to 2000 PPM methane equivalent (Low Range) 10 PPM to 50,000 PPM methane equivalent (High Range)
Hydrogen Cylinder Capacity	9.2 litres
Battery Capacity	15 hours (snap-on replacement)
Minimum Detection Limit	0.5 PPM methane
Intrinsic Safety	Class I, Division 1, Groups A, B, C, & D Hazardous locations, T4 (135°C) rating

Photovac – MicroFID		
Part No.	**Description**	**Price**
MX100053	MicroFID Basic. Includes 15hr rechargeable battery pack, 220Vac battery charger, fuel gas refill adapter, 10 Fluoropore membrane filters, multi tool, Teflon sample probe (20cm), carrying strap and user manual	**£7,500.49**
MX396800	MicroFID Field Kit. Includes carry case (MX396007), calibration kit (MX396011) and Printer cable (MX396051). Does NOT include cal. Gas	**£711.11**
MX396018	Telescoping Extension Probe 6' (1.8m).	**£235.56**
MX396028	Calibration gas, 500ppm Methane	**£191.11**
MX396011	Calibration Kit for MicroFID. Pressure regulator with gauge, adapters and fittings	**£400.00**
MX396007	Carrying Case for MicroFID and Accessories	**£306.67**
MX395002	Carrying Strap, with Shoulder Pad for MicroFID	**£35.56**
MX396051	Printer or Computer Cable for MicroFID. RS-232 interface cable with connectors	**£128.89**
MX396005	Battery Pack for IS MicroFID, replacement or spare	**£528.89**
MX396013	Battery Charger for MicroFID, 220Vac	**£226.67**
MX396014	Battery Charger for MicroFID, 115Vac	**£186.67**
MX396001	Teflon Sample Probe - 8" (20cm)	**£84.44**
MX396004	Fuel Refill Adapter. Connects Hydrogen supply to MicroFID inlet "quick-connect"	**£413.33**
MX396012	Multi-tool for MicroFID. For removal of frit and cap and battery pack assemblies	**£22.22**
MX396016	MicroFID exhaust frit and cap, replacement	**£84.44**
MX396016	MicroFID exhaust frit	**£16.00**
MX396017	3-litre Tedlar Gas Bag, with ON/OFF valve and septum port	**£75.56**
MX396019	1-litre Tedlar Gas Bag, with ON/OFF valve and septum port	**£44.44**
MX396010	Gas Bag Adapter Tubing and Fittings for Regulator/MicroFID Inlet	**£80.00**
MX396009	Gas Pressure Regulator with contents gauge	**£217.78**
MX396022	Charcoal Filters (pk 10)	**£342.22**
MX396060	Coalescing filters (pk 5)	**£151.11**
MX396015	Fluoropore Water/Particulate filter (pk 25)	**£88.89**
MX396003	MicroFID user manual	**£66.67**

New Gastec £4000.00

Instrument Type: portable unheated fid

Specification:
The new Gastec has the following unique features:

- Up to 60hrs fuel gas usage with 400ml bottle
- 22 hours battery life
- Over 5,000 data logged points
- USB down load
- GPS site positioning
- Simple single button press logging and site position
- Digital display – resolves to 1ppm
- Simple ignition
- Carry strap
- No condensation issue

The portable unheated New Gastec Mark V has numerous applications.
The most common is the work over survey for landfill and contaminated land surveys.
However the unit is well suited to :
Paint spray booth monitoring
Fugitive emission from pipe lines(e.g propane or butane gas leaks on caravan sites)
Soil head space analysis
Any methane emission where pid units will not detect.

Calibration:
The units are easily calibrated with 200pm methane.
Good practice dictates that these units are calibrated before a test.
Environmental Monitoring are able to supply a calibration kit with this analyser.

Response Factors
An fid will respond to all hydrocarbons.
The way in which the respond is a function of :
The hydrocarbon being sampled,
The fid design
The fuel being used.
Generally most portable fid are calibrated with methane .
Response factors are therefore quoted relative to a methane calibration.
However when reporting an Fid reading it is generally better to quote it in terms of its carbon content
In mg/m3 as requested by the Environment Agency
This is a simple conversion whereby you multiply your reading in ppm by a conversion factor.
The conversion factor is the mass of the carbon in the sample (in terms of methane) divided by the volume occupied at STP. i.e 12/ 22.414=0.535

GASTEC FID IV rental only

Sensor Type:	Flame Ionisation Detection (FID) using hydrogen
Maximum Range:	10,000ppm
Filter type:	particle and hydrophobic
Response time:	less than 2 seconds
Hydrogen cylinder life:	60 hours
Calibration Period:	every 6 months
Display Type:	Analogue with user selectable ranges
Display Range:	0-1000 ppm or 0-10,000 ppm
Battery Display:	Analogue display with low-level warning
Hydrogen Display:	Pressure dial for hydrogen cylinder levels
Flow:	Integrated flow meter with user control
Alarm Type:	Geiger style click
Alarm frequency:	1Hz tick at 0ppm rising to 3KHz (max reading)
Volume:	user selectable with integral loud speaker
Flame Alarm:	“Flame Out” warning with tilt switch activation
Dimensions	LxWxH: 330 x 120 x 230mm
Weight:	3.7kg (with cylinder)
Batteries:	Rechargeable lead acid
Battery Life:	15 hours

Portable unheated hand held fid

This unit is best used for fugitive emissions, walkover surveys and monitoring applications and ambient temperatures.

The fid device is extremely simple to use with a range of options. If logging is required it is simple to couple a data logger to the output socket and still maintain mobility.

As with most portable FID’s they hate moisture and residues take care to avoid sucking up puddles or moisture. Also purge the unit after use for at least 15mins to remove any heavy hydrocarbons.

Autofim II Flame Ionisation detectors- Rental only

provide very fast and accurate response to hydrocarbons and volatile organics

Auto-ignition with design for hazardous areas.

Ranges	-	0-100 ppm, 0-1000 ppm, 0-10000 ppm
		Auto ranging or manual selection
Display	-	Digital readout with moving bar graph on a three decade
		expanded scale with backlight facility.
		Maximum resolution 0.1% of full scale.
Output	-	Infrared to RS232/Fibre Optic Interface
Input	-	Infrared link connection for external devices
Minimum Detectable		
Limit	-	0.05 ppm Methane
Accuracy	-	Within 10% of reading
Response delay		
Sample Time	-	2 seconds approximately
Fuel (and carrier		
gas)	-	Hydrogen (commercial purity)

Enclosed replaceable, refillable cylinder, or enclosed replaceable, disposable cylinder.

Replaceable batteries	-	6 ‘C’ size cells		
Operation Times	-	**Hydrogen**	**Refillable**	**Disposable**
Surveying mode		45 hours	30 Hours	

Electrical

Voyager call

Chromatography to Go: Power, Performance, and Rugged Reliability

The most technologically advanced portable GC in the world. Rechargeable and field-replaceable batteries allow up to eight hours of field use, or the option to operate off external AC or DC sources. Voyager's powerful analytical engine is composed of a built-in three-column configuration with an isothermal oven for fast GC analysis for up to 40 factory-programmed EPA listed VOCs. With a miniaturized PID/ECD dual detection system, it's easy to see why the Photovac Voyager is truly unique.

Voyager Industries

Environmental (Assay #1) - Forty VOCs, including those listed in U.S. EPA Methods 8240 and TO-14

Petrochemical/Refining (Assay #2) - Methanol, ethanol, methyl t-butyl ether (MTBE), t-amyl methyl ether (TAME), benzene, toluene, ethyl benzene, m-xylene, o-xylene

ABS Rubber (Assay #4) - Acrylonitrile, styrene, 1,3-butadiene

Pulp and Paper (Assay #5) - Hydrogen sulfide, methyl mercaptan, ethyl mercaptan, methyl ethyl ketone (MEK), dimethyl sulfide (DMS), dimethyl disulfide (DMDS), alpha-pinene, methanol, acetone, surfactants and sterilants
(Assay #6) - Ethylene oxide, propylene oxide

Latex Polymers (Assay #7) - Methyl acrylate, ethyl acrylate, isobutyl acrylate, nbutyl acrylate, methyl methacrylate, acrylic acid, vinyl acetate, ethylene, styrene.

Chemicals
Various volatile organic compounds (VOCs), chlorinated solvents

Pharmaceutical
Methylene chloride, acetonitrile, chloroform, acetone, toluene, hexane, methyl ethyl ketone, isopropanol,
xylene, methanol

Agricultural Fumigants
Phosphine, bromomethane, sulfuryl fluoride

Indoor Air Quality
Acetone, benzene, chloromethane, ethanol, n-hexane, m-xylene, p-xylene, 2-propanol, toluene, 1,1,1-trichloroethane

Adhesives
Toluene, acrylate esters, industrial solvents

Photovac - Voyager Portable GC		
Part No.	**Description**	**Price**
Assay 1 for Environmental Analysis		
MX100090	Voyager Portable GC Assay 1, I/S with PID detector	**£27,972.22**
MX100096	Voyager Portable GC Assay 1, I/S with PID & ECD detectors	**£31,861.11**
Assay 2 - 7 for Industrial Health & Safety		
MX100291	Voyager Portable GC Assay 2, I/S with PID Detector	**£27,972.22**
MX100491	Voyager Portable GC Assay 4, I/S with PID Detector	**£28,527.78**
MX100591	Voyager Portable GC Assay 5, I/S with PID Detector	**£29,083.33**
MX100691	Voyager Portable GC Assay 6, I/S with PID Detector	**£28,527.78**
MX100791	Voyager Portable GC Assay 7, I/S with PID Detector	**£28,527.78**
Accessories & Replacement Parts for all Voyager GC's		
Part No.	**Description**	**Price**
MX380318	Field Kit for Assay 1 Env Site Characterisation & Remediation. Includes carry case for accessories, cal kit for Assay 1 (3l gas bag, bag adapter, 12 septum cap vials, 2-100 µl gastight syringes), carrier gas filling device (N2)	**£1,755.56**
MX380338	Field Kit for Assay 2-7 Env Health & Safety. Includes carrying case for accessories, calibration kit for Assays 2-7 (3-litre gas bag, gas bag adapter), carrier gas filling device (Air), and 6-foot telescoping sample probe	**£1,888.89**
MX380310	Calibration Kit for Assay 1. 3-litre gas bag, gas bag adapter, 12 septum cap vials and 2-100µl gastight syringes 9included in Field Kit MX380310).	**£666.67**
MX380337	Calibration Kit for Assays 2-7. 3-litre gas bag, gas bag adapter (included in Field Kit MX380338).	**£250.00**
MX380303	Carrier Gas Filling Device - Nitrogen. Connects Zero Grade Nitrogen cylinder to Voyager quick connect. Includes flow control valve and PRV. For Assay 1 & 4 (included in Field Kit MX380318)	**£666.67**
MX380319	Carrier Gas Filling Device - Air. Connects Zero Grade Air cylinder to Voyager quick connect. Includes flow control valve and PRV. For Assay 2, 5, 6 & 7 (included in Field Kit MX380338)	**£716.67**
MX380309	Carrier Gas Connection Kit. For operating Voyager from an external carrier gas tank and low-pressure regulator, includes 1.8m tubing, quick-connect and 1/8in. SS fitting to regulator	**£161.11**
MX380336	Lamp Window Cleaning Kit. Includes aluminium oxide cleaning compound, 10-cotton swabs and instructions	**£55.56**
MX380305	3 metre Sample Line. 1/8 in. Teflon sample line with Swagelok connector.	**£88.89**
MX380311	6 foot Telescoping Sample Probe. Telescoping / collapsing probe with 1/8 in. Teflon sample line with Swagelok Connector.	**£500.00**
MX380344	SiteChart LX Software. Allows customisation of factory-written Assay Methods, and development of new methods. (Included will all new instruments).	**£577.78**
MX380304	Communication Cable Kit. For connecting Voyager to printer or pc. Terminates in DB-25 male connector. Includes adapters for termination. (Standard accessory).	**£127.78**
MX380334	Tool Kit. Includes Voyager multi-tool, 2 allen keys, and carry pouch.	**£116.67**

PetroPRO

PetroPRO is designed for high-speed analysis of BTEX, but can be modified for analysis of a wide range of VOCs. It weighs less than 15 lbs, is easy to carry with a shoulder strap, and has an internal carrier gas cylinder and battery pack so the instrument can be used in the field without support gas or external power source.

All results are stored in the PetroPRO's memory for a permanent data archive of the day's results: no laptop is required in the field. PetroPRO's built-in graphic display lists the names of detected compounds and the concentration in the sample, eliminating the need to interpret results in the field. An intuitive user interface allows quick and easy changes in the field, if needed. The applications include product fenceline and canister monitoring.

Analytical Specifications

Benzene Analysis Time	Fenceline less than 120 seconds Canister less than 180 seconds
BTEX Analysis Time	Fenceline less than 400 seconds Canister less than 600 seconds
Low Detection Limits (LDL)	Fenceline: 3 PPB Benzene/ 5 PPB Toluene/ 10 PPB Ethylbenzene/ 10 PPB (m/o)-Xylene Canister: 0.1 PPM Benzene, toluene, ethylbenzene, m-xylene
Operating Conc Range	Low PPB (see LDL above) to 200 PPM
Operating Temp Range	0°C to 40°C (32°F to 105°F)
Operating Humidity Range	0 to 95% relative humidity (non-condensing)
Detector	Photoionization detector with std 10.6 eV UV lamp
Carrier Gas	Built-in cylinder for Ultra Zero Air, 8 hours continuous operation
Size	13" (330 mm) x 10.5" (265 mm) x 5" (125 mm)l
Weight	14.6 pounds (6.6 kg)
Keypad	Five dedicated keys (Power, Start/Stop, Calibrate, Enter and Exit) and three menu keys
Display	Six line graphic LCD
Datalogger Memory	Greater than 100 analyses
Serial Output	RS-232, 38.4K baud, 8 data bits, no parity for connection to Windows-based PC
Audio Output	95 decibels @ 2048 Hz, on Alarm
Inlet Connection	1/8" (3.175 mm) compression fitting
Battery Charge/Discharge	<6 hours/ 7.5 hours (8 hours with mains warm up)
Battery Type	Nickel Cadmium rechargeable cell with intelligent charger. The battery pack is 24% cadmium by weight. Battery must be charged in a known non-hazardous area.
Intrinsic Safety	Class I, Division 1, Groups A, B, C, & D pending ATEX II 2 G EEx ib IIC T4 (TA = 0°C to +40

Photovac – PetroPRO		
Part No.	**Description**	**Price**
MX100010	PetroPRO (fl) Intrinsically Safe Portable GC with basic accessories - low concentrations	**£19,083.33**
MX100011	PetroPRO (cc) Intrinsically Safe Portable GC with basic accessories - high concentrations	**£19,083.33**
Accessories for PetroPRO		
Part No.	**Description**	**Price**
MX754001	Field Kit for GC - Carry case, cal. kit, carrier gas filling device, 6' tele probe. No Gas	**£1,772.22**
MX704210	Calibration Gas Regulator (flow matched) for PetrPRO	**£327.78**
MX380337	Calibration Kit for PetroPRO - 3l gas bag and gas bag adapter	**£250.00**
MX380319	Carrier Gas Filling Device - Connects zero air to PetroPRO, with flow valve, quick connect and PRV	**£716.67**
MX396018	6' / 1.8m Telescopic Sample Probe - with 1/8" PTFE line and connector	**£294.44**
MX754020	PetroPRO Transit Case - Hard plastic case. Will hold PetroPRO, std accessories & field kit	**£611.11**
MX380313	DC Adapter - 12V DC adapter with 1.8m cable and cigarette lighter style plug	**£55.56**
MX700312	Communication Cable Kit - PetroPRO to PC kit with connectors	**£250.00**
MX380308	Carrying Strap - strap with shoulder pad	**£111.11**
MX380305	3m Sample Line - 1/8" PTFE line with connector	**£83.33**
MX754010	PetroPRO Tool Kit - includes multi-tool, 2x Allen keys and carry pouch	**£116.67**
MX794010	PetroPRO User Manual	**£61.11**
MX794001	PetroPRO User Reference Chart	**£22.22**
Replacement Parts and Consumables for PetroPRO		
Part No.	**Description**	**Price**
MX754110	Calibration Gas for PetroPRO Analyser - 0.8ppm Toluene, 1.6ppm Ethylbenzene, 1.6ppm m-Xylene, Balance Air. +/-5%. 34l/500psi	**£1,772.22**
MX396015	Fluoropore Water/Particulate Filters - pk 25	**£327.78**
MX380029	10.6eV Lamp	**£250.00**
MX380336	Lamp Window Cleaning Kit	**£716.67**
MX380302	Replacement AC Adapter - North America - 90-120/200-240V AC (115v cord)	**£294.44**
MX380330	Replacement AC Adapter - United Kingdom - 90-120/200-240V AC (BS1363 Plug)	**£611.11**
MX380331	Replacement AC Adapter - Europe - 90-120/200-240V AC (CEE 7/7 Schuko Plug)	**£55.56**
MX700308	Replacement PetroPRO Battery Pack - 8 hour capacity battery	**£250.00**

TECHNICAL SPECIFICATIONS FOR JEROME H_2S ANALYSER- Rental Only

With the push of a single button, the portable Jerome 631-XE Hydrogen Sulphide analyser displays low-level concentrations in seconds. It offers an analysis range of 0.003 - 50 ppm for odour and corrosion control, safety, and leak detection in such industries as wastewater treatment, oil and gas, pulp and paper, and farming.

Range	-	.001 to 50 ppm H_2S
Resolution	-	.001 ppm H_2S (up to .100 ppm)
Sensitivity	-	.003 ppm H_2S
Precision	-	5% Relative Standard Deviation
Accuracy	-	Range 0: +/- .003 ppm at .050 ppm H_2S
Range 1: +/- 0.03 ppm at 0.50 ppm H_2S		
Range 2: +/- 0.3 ppm at 5.0 ppm H_2S		
Range 3: +/- 2 ppm at 25 ppm H_2S		
Response Time		
Sample Mode		
10 to 50 ppm	-	13 seconds
1.0 to 9.9 ppm	-	16 seconds
0.10 to 0.99 ppm	-	25 seconds
.001 to .099 ppm	-	30 seconds
Survey Mode*		
10 to 50 ppm	-	3 seconds
1.0 to 9.9 ppm	-	6 seconds
0.10 to 0.99 ppm	-	15 seconds
.001 to .099 ppm	-	20 seconds
Flow Rate	-	150cc/min (0.15 litres/min = 150cc/min)
Power Req.	-	115VAC or 230VAC, 115 watts maximum
Batteries	-	Rechargeable nickel cadmium
Construction	-	Aluminium Alloy
Dimensions	-	6”W X 13”L X 4”H
Weight	-	7 pounds
Digital Meter	-	Liquid Crystal Display
Operating Env. Range	-	0 - 40°C, non condensing, non explosive

Data Output	-	1) Digital, Serial, RS232, Baud Rate 1200 2) Digital, Serial, RS232 Data Format, but with driver for 20 ma capability and 0 & 20 ma Logic Levels; Baud Rate 1200 Minimum logging interval: 1 min Max number of data points: 999

New Jerome £12,800.00

data logging). Includes: Accessory kit, line cord and operation manual.
Features:
• Three measurement ranges: 3ppb to 100ppb, 0.1 to 1.0ppm and 1.0 to 10.0ppm;
• Accuracy +/-1ppb at 5ppb, +/-3ppb at 50ppb.
• Auto-sampling for timed sampling at preset intervals.
• Survey mode for immediate sampling, response time varies from 12 to 52seconds depending on the concentration
of H2S present.
• Timed sensor regeneration and/or on sensor saturation
• Enhanced data handling with Time and date stamping of logged data, 80 location presets. Supplied with USB driver for Windows ® XP Pro, Windows® VISTA and Windows® 7 for use with Hyperterminal
• Flow rate 150cc/min.
• 230 VAC for the power supply/charger or 12VDC via car accessory cable
• Internal Nickel Metal Hydride rechargeable battery pack
• 18 hours run time from 3 hours charge time
• Dimensions 280 L x 160 W x 170 H mm, 2.5kg

Q Trak Indoor Air quality7565 with swappable probes – CO,CO2,RH and Temp £1650

Providing a comfortable, safe and healthy indoor environment is an increasingly important concern. Good air quality increases concentration and productivity. It can also reduce lost days due to absence. TSI's Q-TRAK™ IAQ Monitor provides quick, accurate information to assess key IAQ parameters.

FEATURES AND BENEFITS

- Measures CO2, temperature, humidity, and CO
- Calculates dew point, wet bulb and percent outside air
- Displays up to 5 measurements simultaneously
- One instrument with multiple plug-in probe options
- User-selectable logging intervals and start/stop times
- Store up to 38.9 days of data collected at one-minute log intervals
- TRAKPRO™ software provided for data logging, analysis and documenting results
- Perform single-point tests for quick building surveys

APPLICATIONS

- Measure indoor air quality conditions in schools, offices and other indoor environments
- Maximize thermal comfort for optimum productivity
- Investigate Sick Building Syndrome and building related illness

Accessories

100mRotating vane head

35mm rotating vane

Articulated hot wire anemom

Environmental Monitoring Supply the very latest Tsi Indoor Air Quality Meters

The IAQ calc

Price: IAQ calc7545 £1260.00

FEATURES AND BENEFITS

- Low-drift NDIR CO2 sensor for stable, accurate readings
- Temperature and relative humidity measurements help determine thermal comfort
- Directly calculates dew point and wet bulb temperatures
- Electrochemical sensor measures CO
- Calculates % outside air from either CO2 or temperature
- Displays up to three parameters
- Logs up to 26,900 data points with key (4) measured parameters enabled
- Sampling function records multiple point measurements

APPLICATIONS

- Verify building HVAC system performance
- Examine building IAQ conditions to optimize worker productivity
- Comply with regulations and guidelines

INCLUDED ITEMS

- Instrument
- Hard carrying-case
- (4) AA alkaline batteries
- Operation and service manual
- NIST calibration certificate
- Logdat2 downloading software with USB cable
- AC adaptor

Real Time dust monitors from Environmental Monitoring

	Dustrak DRx	Dustrak II
Portable	8534 £5524	8532 £3070
Bench top	8533 £6150	8530 £3325

Forget everything you knew about aerosol monitors. The new DustTrak II and DRX monitors are light years ahead of any other. The DustTrak DRX monitor, for instance, is a new laser photometer that simultaneously measures both mass and size fraction – something no other monitor can do. Measure PM1, PM2.5, Respirable, PM10 and TPM simultaneously with no need for size-selective inlet conditioners. When it comes to work comfort and productivity, as well as risk management, don't you want the best? The new DustTrak II and DRX aerosol monitors simply leave everyone else in the dust.

FEATURES AND BENEFITS

- Measure aerosol contaminants such as dust, smoke, fumes and mists
- New graphical user interface with color touch-screen
- Battery operated, data-logging, light scattering laser photometers
- Easy to program, easy to operate
- Real-time mass concentration readings
- Available in desktop and handheld models

APPLICATIONS

- Industrial/occupational hygiene surveys
- Indoor air quality investigations
- Outdoor environmental monitoring
- Baseline trending and screening
- Remote monitoring
- Process monitoring
- Emissions monitoring

Accessories

- **Environmental enclosure**
- **Solar power supply**

Velocicalc

9515 £355

9545 £715

These dependable meters measure air velocity and temperature, calculate flow rate and perform statistical calculations. Models are available that add a humidity measurement and perform dew point and wet bulb temperature calculations.

Professionals have found VelociCalc air velocity meters to be ideal tools for measuring face velocity measurements in fume hoods and spray booths, or for IAQ and ventilation system checks.

The Models 9515 and 9525 are economical choices for Air Velocity Meters without compromising accuracy or precision. The Model 9515 features a 40-inch (101.6-cm) telescoping integrated probe for difficult to reach measurements. The Model 9525 has a 3-inch retractable probe, plus is UL listed as intrinsically safe for use in hazardous locations for Division 1 and 2 in Class I, Groups C and D; Class II, Groups E F and G; and Class III.

The Models 9535 and 9545 thermal anemometers are like having multiple instruments for the price of just one. These meters simultaneously measure and data log several ventilation parameters using a single probe with multiple sensors. Both models measure velocity, temperature and calculate flow. The Model 9545 also measures relative humidity, and calculates dew point, and wet bulb temperature. Models 9535 and 9545 have telescopic straight probes; Models 9535-A and 9545-A have telescopic articulated probes.

FEATURES AND BENEFITS

- Accurate air velocity measurements
- Easy recording of multiple measuring points
- Calculates valuable statistics—average, maximum and minimum values—and records the number of samples
- Flow rate calculated automatically
- Durable telescoping probe with etched length marks
- Available with optional articulating probe
- Models 9515 and 9525
    - Model 9515 range 0 to 4,000 ft/min (0 to 20 m/s)
    - Model 9525 range 0 to 2,000 ft/min (0 to 10 m/s)
    - Intrinsically safe (Model 9525 only)
- Models 9535 and 9545
    - Simultaneously measure velocity and temperature
    - Calculates volumetric flow and actual/standard velocity
    - Measures humidity (Models 9545 and 9545-A)
    - Displays up to 3 measurements simultaneously

Casella CEL 620 £2840.00

Integrating sound meter

The 620 supplied complete with carry case
Features include
Small compact light weight meter
Calibrator, windshield, USB download cable, Batteries,
Calibration Certificate, Software
Specification:

SPECIFICATION

Applicable Standards:

IEC 60651 - 1979 Octave filters (CEL-620B model only):
IEC 60804 - 2000 IEC 61260 Class 0
IEC 61672 - 2002 ANSI S1.11-2004
ANSI S1.4 -1983 (R2006)
ANSI S1.43 - 1997 (R2007)

Technical:

Total measurement range: 20 to 140dB RMS (single range), 143.0 c
Frequency weightings RMS: Simultaneous A, C & Linear (Z)
Frequency weightings Peak: Simultaneous A, C & Linear (Z)
Time weightings: Simultaneous Slow, Fast & Impulse
Amplitude weightings: Q3, Q4 and Q5 (Q4 & Q5 applicable to Lavg c
Thresholds: 70 to 90 (dB) in 1 dB steps (applicable to Lavg only)
Noise floor: <33dB(A) Class 2, <25dB(A) Class 1
Runs stored: 100
Display: 320x240 pixel transmissive colour TFT
Frequency bands: 11 octave bands 16Hz to 16kHz (CEL-620B model only)
Calibration information: Stores pre and post run calibration date, time and level
Output (P.C.): USB 2.0 'A' to 'Mini B'

Measured Parameters:

CEL-610
LXY, LXYmax
CEL-620A
LXY, LXYmax, LXYmin, LXeq, LXpeak, Lavg, LC-LA, LXIeq, LTM3, LTM5, LAE
CEL-620B
LXY, LXYmax, LXYmin, LXeq, LXpeak, Lavg, LC-LA, LXIeq, LTM3, LTM5, LAE
Octaves: LXY, LXeq, LXYmax
Where X is the frequency weighting A, C or Z and Y represents time

CEL Dosimeter 3badge kit with calibrator £2992

•Compact, rugged design weighs only 68g
•No cables to damage or get in the way
•Measures and logs all workplace noise parameters
•32 hour battery life, fully charges in 90 minutes
•Integrated display and visual exposure alarm
•Simple auto-calibration function
•Comprehensive software package
•Intrinsically safe models available for use in hazardous atmospheres
• Simultaneous 'C' and 'A' weighted measurements on the *dB*adge 'Plus'

• Measuring personal noise exposure
• Assessing and monitoring noise in the workplace
• Ensuring compliance with Workplace Noise Regulations
• Selection of effective hearing protection (*dB*adge 'Plus')